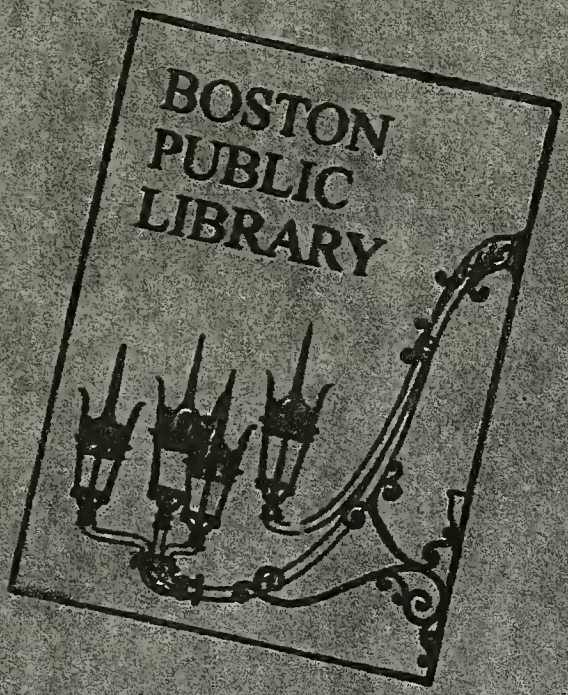
Preliminary Study and Proposal

of

Grove Area Project

Draft for Staff Review Only

Sept. 1963



INTER-OFFICE COMMUNICATION

TO Messrs Logue, McMorrow, Drought, Shocken, Rothermel, Crane, Foster, Feltovich, Bok, McGrath, and Alexander

AT

FROM Mr. John J. DeSimone

AT

DATE September 17, 1963

ATTENTION:

SUBJECT GROVE AREA PROJECT

Attached is a report prepared by Henry T. Reilly concerning the Grove Area Project.

It is being sent to you for review and for consideration as a possible "predominantly open" area project.

The report contains a statement of findings and recommendations as to how the area might be developed.

The plan recognizes existing development and proposes to retain as many of the existing houses in the area as possible, thus, minimizing demolition and relocation problems.

The plan provides 199 single family lots with an average lot size of 7,943 sq. ft., compared to an existing average lot size of about 2,500 sq. ft.. It also provides 6 areas for row housing or apartment construction for approximately 310 new apartments. About 50 new single family homes can be expected to be built with the new site plan. Combining apartment house and new single family house construction, approximately 4½ to 5 million dollars could be expected to be invested in the area by private enterprise. This in my opinion is a very conservative estimate.

Maps of the area are not included in this report due to problems of reproduction. They are on display in the rotunda at the Quincy Market.

I would like to have Henry T. Reilly make a presentation of this report and plan on Thursday, October 3 at 2 o'clock in the 11th floor conference room.

Draft For Staff Review Only.

STATEMENT OF FINDINGS AND RECOMMENDATION

FOR THE GROVE AREA PROJECT

Boston Redevelopment Authority

Prepared by Henry T. Reilly

Supervised by John DeSimone

September, 1963

INTRODUCTION

This report describes the substandard and backward development of a long neglected section of the city, and it endeavors to offer a possible remedy to the situation. It will also demonstrate that the Grove Area Project is eligible for Federal funds to conduct an engineering study in order to determine feasibility for redevelopment.

After having received complaints over a considerable period of time from the residents of the Grove Area, the BRA assigned a staff member the task of writing a federal fund eligibility report for the area. The report concluded that renewal funds were not to be recommended. On this basis nothing was done, but the complaints continued so that a more thorough field survey was undertaken in the fall of 1962. This was followed by intensive research at the Assessor's office and resulted in an analysis of the findings which shall be presented in this report. This analysis establishes the eligibility of the area for Federal funds. Also, a detailed preliminary plan was worked out, based on the best of several alternative plans which were deemed possible. This plan is broader in scope than that suggested previously. It offers the area a practical worth-while solution, from the point of view of the benefit and interest to the present residents, the small scale builders and the city. With this point of view in mind a long neglected part of the city can be upgraded in a most desirable manner. This preliminary plan is presented herein as part of this report.

For projects such as the Grove Area, consisting of predominately open land, the local planning agency must submit evidence that the land substantially impairs or arrests sound community growth and that there is no reasonable expectation that the land will be constructively utilized through private action.

The Urban Renewal Manual on page 3 under Project Eligibility, Part 3-2 defines a predominately open land area, as one not meeting the "built up" criteria, but which is developed at least to the extent of having deteriorated or obsolete improvements, such as buildings, surfaced streets, curbs, sidewalks, or utilities. Obsolete improvements include those which, though structurally sound, are located in accordance with obsolete subdivision patterns, and the location of which would necessarily interfere with any sound development or redevelopment of the area.

In this report the following factors are considered in order to show that the area is substandard and impairs sound community growth.

1. Substandard buildings occupying a considerable portion of the area.
2. Improper size and shape of lots.
3. Poorly designed, obsolete, or inadequate street patterns.
4. Obsolete utilities.
5. Deterioration of site improvements.
6. Complexities of ownership or title.
7. Serious tax delinquency.
8. Lack of adequate and convenient access to the area.
9. Serious topographical difficulties.

The Grove Area Project, according to this report, possesses most of the above factors and therefore it qualifies for Federal Renewal Funds.

SUMMARY

The Grove Area is a stagnant underdeveloped section of the city. The BRA has endeavored to survey the area in order to determine its eligibility for Federal Renewal Funds.

The Grove Area Project is located in West Roxbury, a section of the city which is growing rapidly. The Project Area is a predominantly open-land area comprising 65.3 acres (including streets), of which 50% are vacant, containing 178 structures, of which 172 are residential and 6 commercial. It is platted on an average into 20 foot width lots with an average size of about 2500 square feet. The streets for the most part are under 15 feet wide, unpaved, layed out irregularly and some exist only on paper. There are no sewers except those serving the border streets. Development has lagged on account of the rough irregular topography, lack of an adequate street pattern and the small lot sizes. This has led to tax delinquency, whereby the city has acquired 25% of the area. Almost all the structures are single family dwellings of which most are in need of minor repairs. It is apparent from the above description, that the Grove Area possesses substantial evidence of predominantly open area blight. In order to correct this situation, it is recommended that the BRA apply for Federal Renewal Funds in order to conduct engineering surveys to determine feasibility for redevelopment.

Several possibilities for improvement of the area have been considered: the area could be left essentially as it is; the structures could all be demolished and an entirely new development be located therein; or some compromise could be established. Also, agents, other than the BRA could be responsible for development, but none of these have the

power or funds that are available to the BRA.

It is recommended that the BRA be the responsible agent to improve this area. A plan that would allow the great majority of existing structures to remain with a new street pattern complete with services as well as parcels of vacant land large enough to enable small contractors to develop is recommended in this report.

The preliminary plan is based on the above considerations. It contains a total of 8940 feet of new road having 25 to 30 foot rights-of-way, new sewers, water mains and storm sewers. Out of a total of 2,780,411 square feet, 9.8% will be devoted to streets, 56.9% to single family homes, 24.5% to apartments, 1.3% to business, and 7.5% to parks and pedestrian rights-of-way. This compares to an existing ratio of 36.6% for single family homes, .5% for apartments, 1.3% for commercial use, 8.9% for streets, 2.6% for paper streets, and 50% for vacant land. The existing roads will, for the greater part, be eliminated. Out of a total of 178 structures, nineteen will have to be demolished or moved for road construction, 9 for apartments, 2 for parks and 5 in order to provide for adequate lot size. The entire cost to the BRA will be approximately $1,205,774; $982,000 for road and utility construction alone.

This plan would provide the necessary improvements that are needed to bring this area up to an accepted standard and ensure a proper development of the area unhampered by the existing inadequacies.

DESCRIPTION OF AREA AND STATEMENT OF FINDINGS

Location

The Grove Area Project is located in Ward 20 within West Roxbury, one-third of a mile from the Dedham line, and 50 minutes by MTA from Downtown Boston. It is bounded by Washington, Grove, Centre and Stimpson Streets.

Description of Surrounding Area

The Project Area is situated in a section of the city that is now growing rapidly. Much of the surrounding area is occupied by single-family homes with large tracts still undeveloped. Along Washington Street, the land is being given over to commercial and apartment interests. There are two elementary schools within walking distance from the project area, one of which, the Beethoven School, is about to undergo expansion. In the vicinity of the corner of Grove and Washington Streets, there is a neighborhood shopping center, a fire house, and the Beethoven School. At the corner of Grove and Centre Streets, there is a large quarry producing crushed stone. (See Appendix Exhibit 1, Maps 1 & 2)

General Land Use and Description of Terrain

The project area comprises 25 blocks having an area of 65.3 acres acres including streets. The area is predominantly open land containing 178 structures of which 172 are residential and 6 commercial. The area was once considered a summer camp area. It is platted on the average into 20 foot width lots with an amorphous street system averaging 15 feet in width. The terrain is rugged with rock out-croppings and secondary growth of scrub.

Structures

The rough topography is the cause of a considerable amount of vacant land (50%). Yet approximately 700 people live within the area giving an overall density of 10.7 persons to an acre of land. Of the 172 residential structures, all are single-family structures, with the exception of one ten-family apartment building, one three-family house and five two-family houses. There is also one mixed residential and commercial structure. Most of the buildings, particularly in the interior, are over thirty years of age. (See Appendix Exhibit 2, Map 5) These structures are built of wood with the exception of the apartment house, most of the commercial buildings and a half dozen single family homes. The majority of structures are from one-and-a-half to two-and-a-half stories in height. All structures are owner-occupied with the exception of the 10-family apartment building, and two of the three commercial structures owned by realty companies, one of which is the mixed res/non-res. structure. Most of these are in need of extensive minor repairs. (See Appendix Exhibits 3, 4, 5, & 6, Map 6)

Parcel Size

The vast majority of parcels range from 2000 to 4000 feet, the smallest being 520 square feet, the largest 130,443 square feet. (See Appendix Exhibits 7, 8 & 9)

Streets and Utilities

The streets are narrow, unpaved, rutted and subject to flooding. The rough topography has contributed to this and has also prohibited the construction of sewers. Water and electricity are available to everyone; however, the rocky landscape and the small size of the parcels, as well as the poor streets, have hindered

residential development. Hardly any structures have been built in the interior (the area serviced by the inadequate roads) in the last thirty years. (See Appendix Exhibits 10, 11, Maps 7, 8 & 9)

Tax Delinquency

The same factors that have led to the lack of house construction have caused a market depreciation directly affecting the saleability of the vacant land. This has resulted in tax delinquency; consequently, the city has had to acquire ownership of 25% of the area. (See Appendix Exhibits 12, 13, 14, 15, 16, Maps 10, 11.

Social Characteristics

Of the 700 people in the area, almost half are of Irish descent while the rest are fairly well mixed. There are no negroes living in the area and very few of Jewish extraction. These residents belong to a stable middle class group with an average income of $6500. (See Appendix Exhibit 17)

Conclusion

From the preceding paragraphs and data referred to in the appendix, it is apparent that the Grove Area does indeed possess substantial evidence demonstrating that the conditions within the area impairs or arrests sound community growth, and that there is no reasonable expectation that the land will be constructively utilized through private action. Old rundown auxiliary buildings, undersized parcels, narrow, unpaved streets, lack of sewers, abandoned cars, discarded rubbish, a history of serious tax delinquency and unusually rugged topography have contributed to this area's lack of development. In order to correct this situation, public action should be taken.

SUGGESTED ALTERNATIVES FOR IMPROVEMENT OF AREA

As it can be demonstrated thatthe Grove Area Project is, in fact, eligible for Urban Renewal Funds, then it is necessary to suggest what improvements and development should be made. In order to encourage development (either private or public) within the area, it is important that the necessary land be made available and that the necessary civic improvements, such as adequate streets and sewerage, be provided; as it is conversely necessary that in order to make the civic improvements practical, residential development should be included as a necessary part of the overall plan. The two, development and civic improvements, must compliment each other.

According to the BRA eligibility report of May 31, 1961, there are certain alternatives.

1. Construction of streets and utilities by the Public Improvements Commission, to be accompanied, hopefully, by private acquisition and development of some of the tax title and private, vacant, buildable land.
2. Construction of necessary improvements by a private corporation composed of all the property owners of the area who would be moved to contribute their respective shares of total cost on some equitable basis.
3. Continuation of the present inaction, except that the city might spread some gravel on the roads to make them passable and require owners of defective cesspools to rebuild them.

None of the three above alternatives appears acceptable; whereas, the Redevelopment Authority has the power of eminent domain, access to Federal Money that can be made available to it, and the power to make improvements that will insure development to its full potential within the objectives set forth in this report. It is believed that the job can be done economically.

RECOMMENDED PRELIMINARY PLAN FOR GROVE AREA PROJECT

1. Objectives

The following plan for the Grove Area Project has been prepared with these objectives in mind:

a. Maintain as many existing structures as possible.

b. Increase the tax base of the city by making all the tax title buildable land available for private development.

c. Increase the size of single family house lots to a minimum of 6,000 square feet to provide adequate size lots to build on.

d. Provide land areas large enough to accommodate moderate rent apartment development by small scale contractors.

e. Stimulate rehabilitation of existing structures in order to enhance the appearance and desirability of the area.

f. Provide park areas and/or open space by taking advantage of the scenic unbuildable vacant land

g. Provide a new interior road system to conform to the topography with controlled access points to the exterior traffic movement.

h. Provide road access to all buildable undeveloped land.

i. Provide sewers and other facilities in order to encourage development.

With these considerations and objectives in mind the following plan was prepared:

2. Land Use Area

The Grove Area under the proposed plan will be completely replatted providing an entirely new street system and land-use pattern. From an existing parcel total of 729, of which 551 are vacant, there will be 217 parcels, of which there will be 199 single family lots, 6 apartment lots, 6 business lots and 6 open space lots. Out of a total area of 2,780,411 square feet, 9.8% will be devoted to streets, 56.7% to single family homes, 24.5% to apartments, 1.3% to business, and 7.5% to open space and pedestrian right -of-way. This compares to an existing ratio of 36.6% for single family homes, .5% for apartments, 1.3% for business, 8.9% for streets, 2.6% for paper streets and 49.9% for vacant land.

The single family lots range from 4,500 square feet to 17,500 square feet with an average size lot of 7,943 square feet; the apartment lots range from 37,300 to 302,900; the business lots range from 2,956 to 10,016 square feet, and the open space lots and pedestrian right-of-way range from 2,250 to 82,750 square feet. (See Appendix Exhibits 18, 19, Map 12)

3. Number of DU's

Eventually, there will be one single family home for each of the 199 single family lots and there will be a total of 320 apartment DU's, including 10 existing apartment DU's, giving a grand total of 519 DU's as compared to 187 existing DU's, or almost triple the present number. This will provide, on the basis of four persons per dwelling unit, for a population of 2,076 people, or 31.8 persons per acre, or 7.9 DU's per acre. (See Appendix Exhibit 20)

4. Open Space

The open space land is all unbuildable land. This land will be city owned. Some of this open space is narrow in width and is intended primarily to serve as pedestrian rights-of-way.

5. Structures To Be Relocated

Nineteen houses will be removed to another location or demolished because of road construction, nine for apartments, two for parks, two for being in a dilapidated condition and five in order to provide an adequate lot size. This makes a total of 37 houses to be moved or demolished. Those buildings scheduled to be taken for parks and lot size may not be removed as long as they are under present ownership should the owners prefer not to sell or have their homes removed. It must be understood that the final engineer's report may find it

necessary to take more buildings, or, more likely, they may actually find it possible to take fewer homes. (See Appendix Exhibit 21)

6. Road Pattern and Utilities

In order to eliminate unnecessary streets and right angle turns, an entirely new road system is proposed. The following factors in designing the road pattern were used as guides: topography, existing buildings and a desire for a simple and smooth flowing circulation system. As a result, the plan consists of a main artery running down the center from north to south off which will branch two loop roads, one in the southeast and one in the northwest, each containing a bisecting north-south secondary road. Three small culs-de-sac plus the existing Bryant Road are included. In order to minimize through traffic, street circulation is designed to facilitate local movement. Four points of ingress and egress are provided, one each to Centre and Stimpson Streets, and two to Grove Street. Two of these are located at each end of the main artery and one off each of the two loop roads. This road pattern will serve all existing and proposed structures, many of which will face away from the roads. This is common practice in many of the better residential areas such as Marblehead and Lincoln. In such cases, the existing road alignment on which these houses face can be converted to driveways. The total length of the roads minus the existing Bryant Road is 8,940 feet, 5,800 feet of which will be 30 feet right-of-way with 20 feet pavement and 3,140 feet of which will be 25 feet right-of-way with a 15 foot pavement. The 30 foot and 25 foot rights-of-way were predicated on the need to recognize the rugged terrain and proximity of the houses to the existing roads, over some of which the new road will pass. Off-street parking will be provided for every DU, and no on-street parking will be permitted.

URA won't buy

The roads will be paved with bituminous concrete. Each road will have sidewalks 3 feet wide on both sides of the street. Between the sidewalk and the curbing will be 2 feet of grass. Here will be located hydrants, utility lines and planted trees. The utility companies will be required to bury all wiring and piping.

7. Cost Analysis

The entire cost of the construction, including all the work mentioned above, is estimated at $1,205,774 of which the city's share will be $401,925. As the city will net $45,770 from the sale of city-owned land to the BRA, the net cost to the city will be $356,155 or $16,960 per year over a 21-year period.

The future yearly tax return from the Project Area, based on the present tax rate and present assessed valuations of present structures and land, will be an estimated $143,737 or $126,777 after the annual share of the construction cost is deducted. This compares with a present tax return of $67,408 per year. Therefore, under the proposed plan, the city will double its tax revenue from the area. (See Exhibits 23, 24, and 25)

8. Conclusion

The 700 persons now living and those that will be living in the Grove Area Project deserve to have decently paved streets, sewers and other necessities which the city provides its other residents. At the same time, an area as large as 65.3 acres within the central city of one of the nation's largest metropolitan areas should not be underused, as land is already too scarce. Therefore the plan presented herein will indeed provide the best possible realization of the goals that were

set forth. It will insure maximum utilization of the land while providing for the needs of the present residents at a cost the city can afford.

As the Federal Government has enacted Urban Renewal Legislation empowering the local Redevelopment Agency to exercise its authority enabling such areas to be properly developed in the best interests of its residents and the city, it is recommended that the Boston Redevelopment Authority submit a formal request to the H.H.F.A. for Urban Renewal Funds to conduct a feasibility survey of the Grove Area Project.

APPENDIX I

EXHIBITS

1. Non-Residential Uses
2. Age of Structures
3. Distribution of Deficiencies
4. Building Deficiencies by Type of Fault (Graph)
5. Building Valuations
6. Table of Structures showing Floor Area, Building Valuation, Building Condition and Value Per Square Foot of Floor Area of Each.
7. Number of Parcels By Size
8. Distribution of Parcels by Area (Graph)
9. Table showing Parcel Size Distribution by Block
10. Street Width and Length
11. Utility Measurements
12. Ownership by Area
13. Parcel Ownership (Table)
14. Parcel Ownership (Graph)
15. Contiguous Ownership
16. Land Valuations
17. Census Tract Data Showing Population By Race, Foreign-Born Stock, Years of School Completed, Family Income, Number of Families, Population by Age and Sex, Employment, Means of Transportation and Place of Work

APPENDIX I CONT'D.

EXHIBITS

18. Proposed Land Use in Square Feet
19. Land Use - Present and Proposed (Graph)
20. Dwelling Units Existing and Future (Graph)
21. Buildings To Be Demolished or Moved (Table)
22. Length and Width of Proposed Streets
23. Total Cost Estimate of Proposed Plan (Itemized)
24. Cost Estimate of BRA Land Purchase and Sale
25. Analysis of Revenue and Tax needs to underwrite cost of Project.

Exhibit 1.

NON-RESIDENTIAL USE

This is a list of non-residential uses in order of appearance as one walks northeast along Washington Street and rounding the corner, northwest along Grove Street.

Liquor Store	-	Washington St.
Super Market	-	Washington St.
Beauty Shop	-	Washington St.
Shoe Repair	-	Washington St.
Luncheonette	-	Corner
Realty	-	Grove Street
Vacant	-	Grove Street
Vacant	-	Grove Street
Pizzeria	-	Grove Street
Vacant	-	Grove Street
Vacant	-	Grove Street
Light Manufacturing	-	Grove Street
Barber Shop	-	Grove Street
Real Estate	-	Grove Street
Star Petroleum		Grove Street

Also the following type commercial enterprises are located across Washington and Grove Streets.

Two restaurants

One drug store

One hardware store

Three gas stations

A small manufacturing company

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Exhibit 2.

AGE OF STRUCTURES

Most of the structures built since 1940, with the exception of one or two, are located on Grove, Centre, Stimpson Streets and Bryant Road.

Age of Structures

3 structures built 1895-1910

81 structures built 1911-1918

36 structures built 1919-1940

32 structures built 1941-1948 by one builder in 1942

14 structures built 1949-1962

12 structures built have no known date of construction

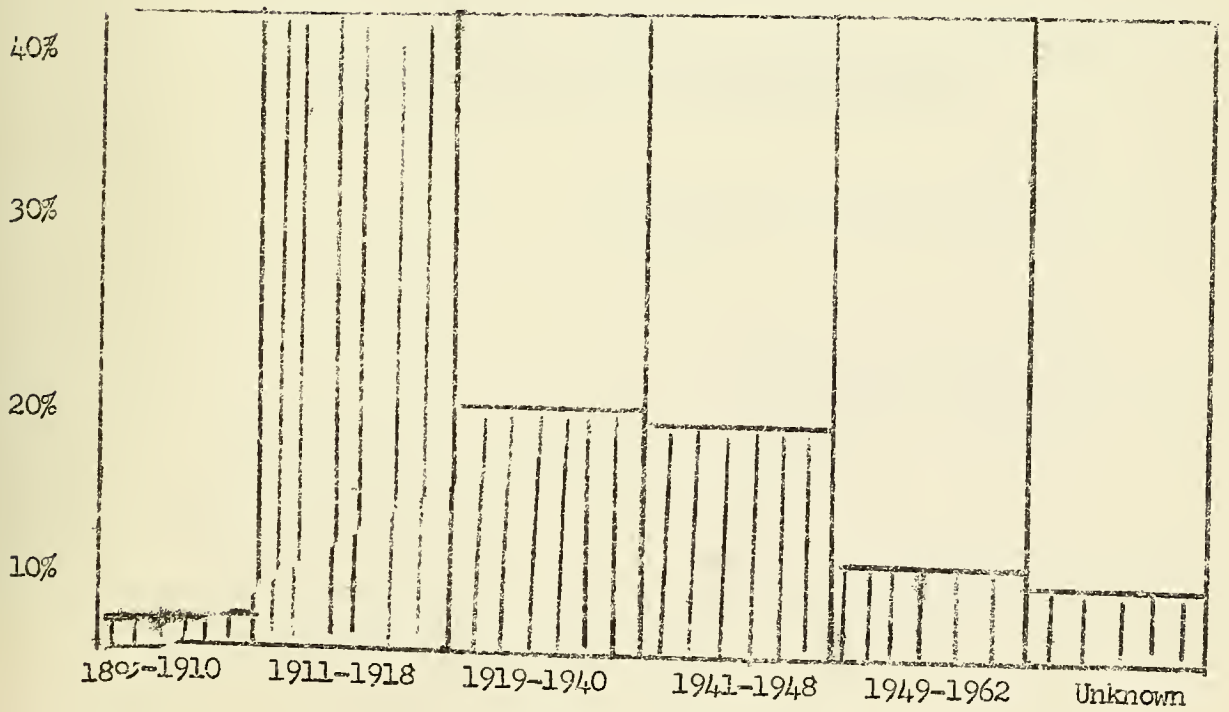

Exhibit 3.

DISTRIBUTION OF DEFICIENCIES

A.	Total Structures (Major)	178
B.	Total Residential Structures	172 or 97%
C.	Total Mixed Res.-Non-Res. Structures	1 or .6%
D.	Total Non-Res. Structures of which one structure is 66% vacant	5 or 2.9%
E.	Total structures having "A" condition	75 or 42.1%
	Total structures having "B" condition	53 or 29.8%
	Total structures having "C" condition	48 or 26.9%
	Total structures having "D" condition	2 or 1.2%

NOTE:

"A" condition means a structure needing little or no repairs.

"B" condition means some minor repairs.

"C" condition means extensive minor repairs and/or a few major repairs.

"D" condition means extensive major repairs.

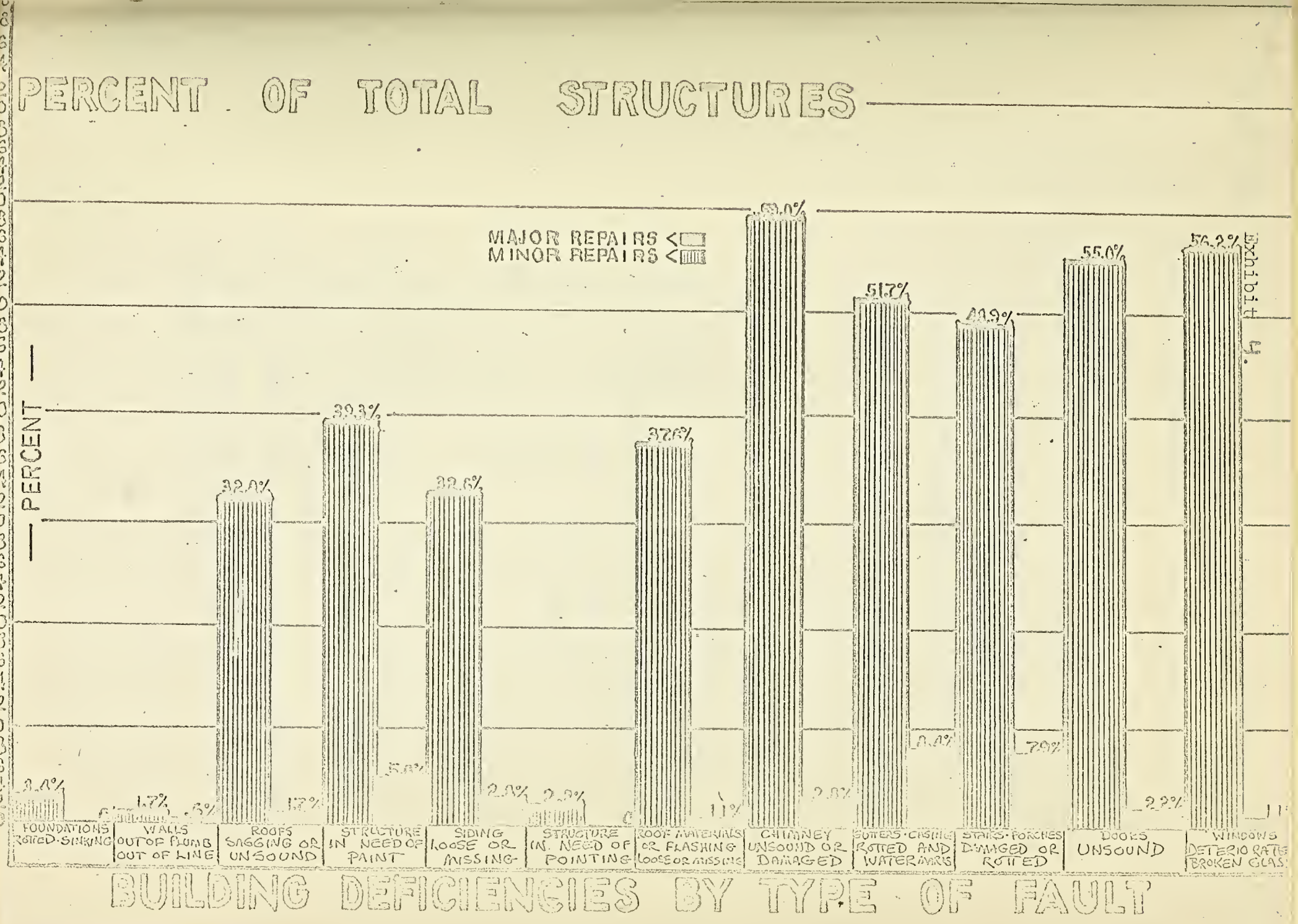
PERCENT OF TOTAL STRUCTURES
MAJOR REPAIRS
MINOR REPAIRS
PERCENT
3.4%
1.7%
.3%
32.0%
1.7%
39.3%
5.8%
32.6%
2.8%
2.3%
37.8%
1.1%
63.0%
2.8%
51.7%
8.4%
40.9%
7.9%
55.0%
2.2%
56.2%
1.1%
FOUNDATIONS ROTED-SINKING
WALLS OUT OF PLUMB OUT OF LINE
ROOFS SAGGING OR UNSOUND
STRUCTURE IN NEED OF PAINT
SIDING LOOSE OR MISSING
STRUCTURE IN NEED OF POINTING
ROOF MATERIALS OR FLASHING LOOSE OR MISSING
CHIMNEY UNSOUND OR DAMAGED
GUTTERS-CASING ROTTED AND WATERMARKS
STAIRS-PORCHES DAMAGED OR ROTTED
DOORS UNSOUND
WINDOWS DETERIORATED BROKEN GLASS
BUILDING DEFICIENCIES BY TYPE OF FAULT

Exhibit 5.

Exhibit 5.

BUILDING VALUATIONS

Total Building Valuation - - $674,077

A. Of 8 structures valued at $1.00 or less per square foot of floor area, 3 were in "A" condition, 1 in "B" condition, 2 in "C" condition, and 2 in "D" condition.

B. Of 9 structures valued at $1.01 - $1.25 per square foot of floor area, 2 were in "A" condition, 3 in "B" condition, and 4 in "C" condition.

C. Of 16 structures valued at $1.26 - $1.50 per square foot of floor area, 7 were in "B" condition, and 9 were in "C" condition.

D. Of 21 structures valued at $1.51 - $1.75 per square foot of floor area, 2 were in "A" condition, 10 were in "B" condition, and 9 were in "C" condition.

E. Of 22 structures valued at $1.76 - $2.00 per square foot of floor area, 4 were in "A" condition, 7 were in "B" condition, and 11 in "C" condition.

F. Of 14 structures valued at $2.01 - $2.25 per square foot of floor area, 3 were in "A" condition, 6 in "B" condition, and 5 in "C" condition.

G. Of 9 structures valued at $2.26 - $2.50 per square foot of floor area, 3 were in "A" condition, 5 in "B" condition, and 1 in "C" condition.

Exhibit 5. Cont.

H. Of 9 structures valued at $2.51 - $2.75 per square foot of floor area, 5 were in "A" condition, 3 in "B" condition, and 1 in "C" condition.

I. Of 12 structures valued at $2.76 - $3.00 per square foot of floor area, 3 were in "A" condition, 5 in "B" condition, and 4 in "C" condition.

J. Of 10 structures valued at $3.01 - $3.50 per square foot of floor area, 5 were in "A" condition, 3 in "B" condition, and 2 in "C" condition.

K. Of 27 structures valued at $3.51 - $4.00 per square foot of floor area, 27 were in "A" condition.

L. Of 10 structures valued at $4.01 - $5.00 per square foot of floor area, 8 were in "A" condition, and 2 in "B" condition.

M. Of 3 structures valued at $5.01 - $6.00 per square foot of floor area, 3 were in "A" condition.

N. Of 3 structures valued at $6.01 - or greater per square foot of floor area, 2 were in "A" condition, and 1 in "B" condition.

The most significant fact here is that the higher the valuation, generally the fewer "C's" and "D's". This is as should be expected.

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Exhibit 6.

TABLE OF STRUCTURES (1 of 4)

BUILDING NO.	FLOOR AREA	BUILDING VALUATION	BUILDING CONDITION	VALUE PER SQUARE FOOT OF FLOOR AREA
1	1400	3700	A	2.6
2	1500	3700	B	2.47
3	3750	6000	B	1.6
4	1000	9000	A	9.0
5	5000	15600	B	3.1
6	2600	4700	B	1.8
7	2300	9500	B	4.1
8	3150	7500	B	2.38
9	2250	5000	A	2.22
10	3000	36400	A	12.13
11	1700	2000	A	1.17
12	650	900	C	1.38
13	800	900	B	1.12
14	325	1100?	A	3.38?
15	800	700	D	.87
16	800	1400	C	1.75
17	1200	1400	C	1.16
18	650	1400	C	2.15
19	500	1400	B	2.80
20	850	1300	C	1.53
21	400?	2000	B	5.00
22	500	1400	B	2.80
23	800	1400	B	1.75
24	2000	4300	C	2.15
25	500	400	C	.80
26	1050	1100	A	1.04
27	3300	6700	B	2.03
28	750	1400	C	1.86
29	1000	3200	A	3.20
30	1100	2900	A	2.63
31	825	1900	A	2.30
32	900	1900	B	2.11
33	600	900	C	1.50
34	1000	1800	C	1.80
35	1400	2800	A	2.00
36	350	900	A	2.57
37	1100	3100	A	1.91
38	1200	1800	B	1.50
39	1200	2300	C	1.92
40	1200	1800	C	1.50
41	525	1300	A	2.47
42	700	3700	A	5.28
43	1000	2900	C	2.90
44	1600	3900	A	2.44

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TABLE OF STRUCTURES (2 of 4)

BUILDING NO.	FLOOR AREA	BUILDING VALUATION	BUILDING CONDITION	VALUE PER SQUARE FOOT OF FLOOR AREA
45	750	1400	C	1.87
46	1000	1400	C	1.40
47	1100	1400	C	1.27
48	750	1400	C	1.87
49	850	1400	C	1.65
50	700	1900	B	2.71
51	1200	1700	B	1.42
52	1000	1100	C	1.10
53	300	1400	A	4.66
54	1600	1900	B	1.19
55	500	1000	C	2.00
56	1350	1300	C	.96
57	850	1300	A	1.52
58	700	900	B	1.29
59	600	1800	B	3.00
60	1500	4400	B	2.93
61	1200	3200	B	2.66
62	250	200	A	.80
63	400	700	C	1.75
64	1500	1300	B	.86
65	1250	2300	C	1.84
66	650	1400	C	2.15
67	900	1600	A	1.77
68	1150	1900	B	1.65
69	850	1400	A	1.65
70	1100	3400	A	3.09
71	1000	2000	A	2.00
72	1850	6300	C	3.41
73	625	4000	B	6.40
74	700	1300	C	1.86
75	1300	1900	C	1.46
76	750	1400	A	1.87
77	900	1900	C	2.11
78	900	1400	B	1.55
79	450	1300	C	2.89
80	1200	1400	C	1.17
81	450	1400	C	3.11
82	1350	2300	B	1.70
83	750	1600	A	2.13
84	900	1700	B	1.89
85	1200	2100	C	1.75
86	750	1700	A	2.27
87	1050	900	A	.86
88	650	900	C	1.38

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TABLE OF STRUCTURES (3 of 4)

BUILDING NO.	FLOOR AREA	BUILDING VALUATION	BUILDING CONDITION	VALUE PER SQUARE FOOT OF FLOOR AREA
89	800	1400	C	1.75
90	1200	1800	C	1.50
91	1000	1900	B	1.90
92	850	1400	C	1.65
93	800	1000	B	1.25
94	900	1300	B	1.44
95	650	1600	C	2.46
96	1200	2700	B	2.25
97	1400	1100	D	.79
98	1250	2400	B	1.92
99	1150	3200	A	3.59
100	1500	2800	C	1.86
101	900	1900	B	2.11
102	775	2400	B	3.09
103	1200	2200	B	1.83
104	1500	1900	B	1.27
105	1050	1900	B	1.81
106	1200	1900	B	1.33
107	600	1000	B	1.66
108	950	1600	B	1.68
109	1300	1400	C	1.08
110	1050	1900	C	1.81
111	800	2200	B	2.75
112	800	4000	A	5.00
113	800	4000	A	5.00
114	500	1400	C	2.80
115	600	1400	B	2.33
116	1400	1900	C	1.36
117	1600	2900	C	1.81
118	1050	1800	B	1.71
119	675	1700	C	2.52
120	1000	1600	B	1.60
121	1150	2400	C	2.09
122	1025	1800	C	1.76
123	800	1700	B	2.12
124	850	2400	B	2.82
125	1000	2400	B	2.40
126	1150	3300	C	2.87
127	1575	3600	B	2.29
128	1800	3300	B	1.83
129	2500	4000	B	1.60
130	800	2400	A	3.00
131	800	2300	A	2.86
132	600	2200	A	3.66

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TABLE OF STRUCTURES (4 of 4)

BUILDING NO.	FLOOR AREA	BUILDING VALUATION	BUILDING CONDITION	VALUE PER SQUARE FOOT OF FLOOR AREA
133	2300	3600	C	1.57
134	2400	2000	A	.83
135	1450	4800	A	3.31
136	875	2700	B	3.09
137	1000	3200	A	3.12
138	775	1600	B	2.06
139	800	4500	A	5.63
140	1400	3800	A	2.71
141	1100	3700	A	2.98
142	800	4500	A	5.63
143	1300	5700	A	4.38
144	1600	4100	A	2.56
145	1050	4100	A	3.90
146	1050	4100	A	3.90
147	1050	4100	A	3.90
148	1050	4100	A	3.90
149	1050	4100	A	3.90
150	1050	4100	A	3.90
151	1050	4100	A	3.90
152	1050	4100	A	3.90
153	1050	4100	A	3.90
154	1050	4100	A	3.90
155	1050	4300	A	4.10
156	1050	4300	A	4.10
157	1050	4100	A	3.90
158	1050	4100	A	3.90
159	1050	4100	A	3.90
160	1050	4100	A	3.90
161	1050	4100	A	3.90
162	1050	4100	A	3.90
163	1050	4100	A	3.90
164	1050	4300	A	4.10
165	1050	4100	A	3.90
166	1050	4100	A	3.90
167	1050	5000	A	4.76
168	1400	4300	A	3.07
169	1050	4100	A	3.90
170	1050	4100	A	3.90
171	1050	4100	A	3.90
172	1050	4100	A	3.90
173	1050	4100	A	3.90
174	1050	4200	A	4.00
175	1400	3900	A	2.79
176	1050	3900	A	3.71
177	850	4000	A	4.70
178	1600	2300	B	1.44

94,800

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Exhibit 7.

NUMBER OF PARCELS BY SIZE

Sq. Feet	No. Parcels
0 - 500	0
501 - 1000	24
1001 - 1500	178
1501 - 2000	96
2001 - 2500	86
2501 - 3000	80
3001 - 3500	91
3501 - 4000	53
4001 - 5000	45
5001 - 7500	34
7501 - 10,000	17
10,001 - 15,000	16
15,001 - 25,000	5
25,001 - 50,000	2
50,001 - 100,000	1
100,000 and over	1
Total Number of Parcels	729

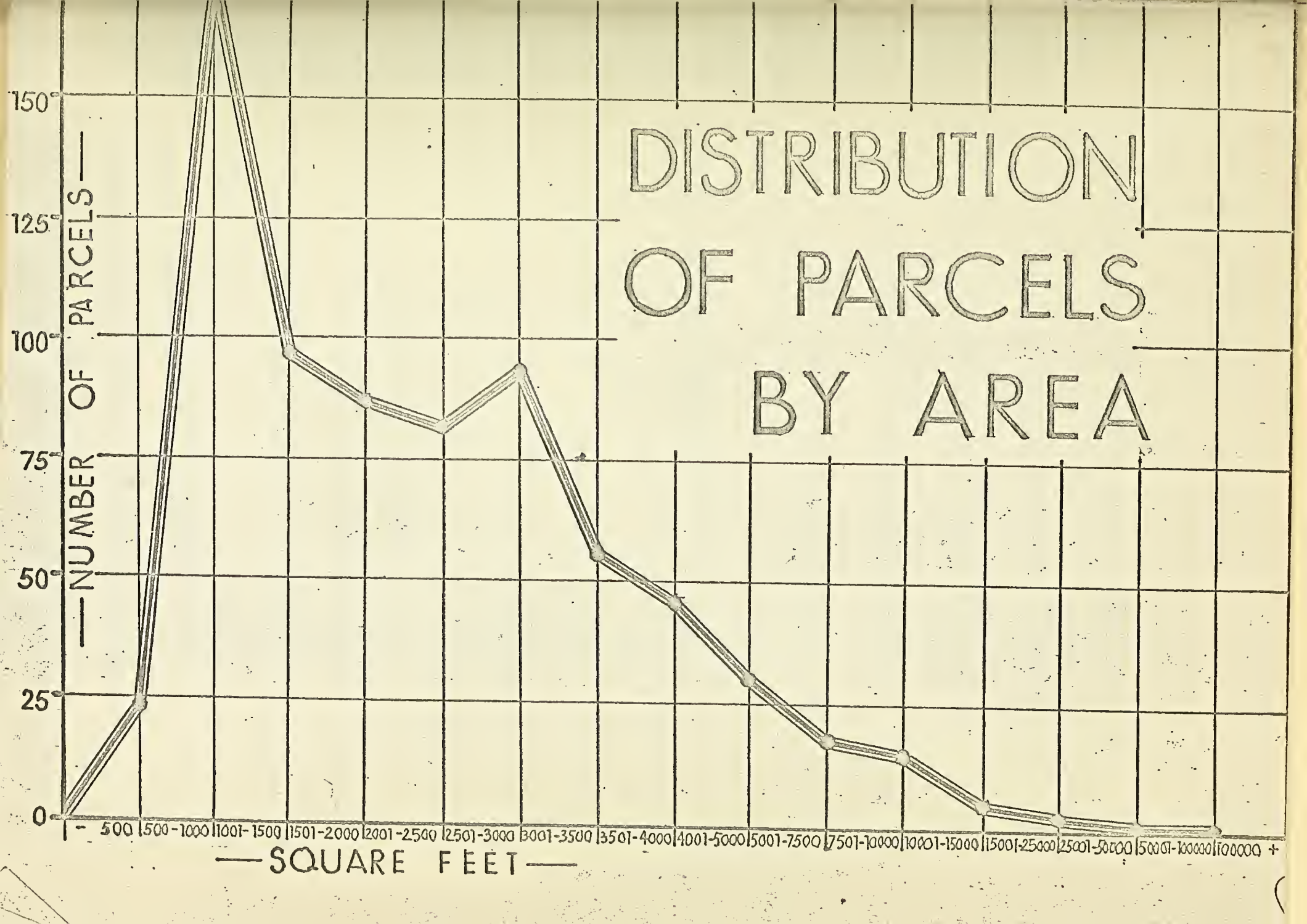
DISTRIBUTION
OF PARCELS
BY AREA
—NUMBER OF PARCELS—
150
125
100
75
50
25
0
- 500
500-1000
1001-1500
1501-2000
2001-2500
2501-3000
3001-3500
3501-4000
4001-5000
5001-7500
7501-10000
10001-15000
15001-25000
25001-50000
50001-100000
100000 +
—SQUARE FEET—

EXHIBIT 9. Parcel Size Distribution by Block

BLOCK	TOTAL	1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	4001-5000	5001-7500	7501-10000	10001-15000	15001-25000	25001-50000	50001-100,000	100,000+
79B3	62	0	1	38	15	3	3	2	0	0	0	0	0	0	0	0	0
79B4	44	0	0	29	0	4	4	6	0	13	1	0	0	0	0	0	0
79B12	43	0	0	4	3	0	10	9	1	2	3	0	0	0	0	0	0
79B20	19	0	1	4	2	4	1	2	1	1	2	0	0	0	0	0	0
79B19	30	0	0	13	6	1	4	2	2	1	1	0	0	0	0	0	0
79B11	24	0	0	3	2	3	12	12	2	2	1	0	1	0	0	0	0
79B14	7	0	0	2	1	6	2	0	0	0	1	0	0	0	0	0	0
79B10	29	0	0	5	5	2	4	3	1	4	0	0	0	0	0	0	0
79B5	24	0	0	7	2	6	9	8	7	2	1	0	0	0	0	0	0
79B15	40	0	0	5	7	6	6	2	5	1	2	0	0	0	0	0	0
79B8	23	0	2	4	2	0	3	3	1	1	0	0	0	0	0	0	0
79B25	30	0	3	2	4	1	0	2	7	3	0	0	0	0	0	0	0
79B17	9	0	0	1	2	0	1	6	1	0	1	0	0	0	0	0	0
79B2	13	0	0	1	3	1	1	1	0	0	1	0	0	0	0	0	0
79B16	12	0	1	1	3	5	1	0	1	0	0	0	0	0	0	0	0
79B21	9	0	0	4	2	1	1	3	2	1	0	0	0	0	0	0	0
79B22	12	0	0	1	0	1	1	2	1	0	1	0	0	0	0	0	0
79B24	12	0	0	3	3	1	2	2	0	0	0	0	0	0	0	0	0
79B7	13	0	0	0	5	2	2	1	1	1	0	0	0	0	0	0	0
79B9	18	0	0	4	3	1	0	3	0	1	0	0	0	0	0	0	0
79B23	19	0	0	7	1	6	2	2	2	1	0	0	0	0	0	0	0
79B6	17	0	0	4	0	3	5	2	2	1	0	0	0	0	0	0	0
79B18	21	0	0	5	2	5	4	0	5	0	0	0	0	0	0	0	0
79B13	83	0	0	4	8	18	9	4	10	9	10	3	2	2	2	1	0
79B1	116	0	6	28	15	7	3	16	4	3	12	8	11	3	0	0	0
TOTAL	729	0	24	178	96	86	80	91	53	45	34	17	16	5	2	1	1

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Exhibit 10.

STREET WIDTH AND LENGTH

A. Width

Washington St.	-	100' x 550 =	55,000
Grove St.	-	60' x 3,020 =	181,200
Centre St.	-	55' x 2200 =	121,000
Stimpson St.	-	40' x 1940 =	57,600
Bryant Rd.	-	40' x 300	12,000
			426,800 = 9.2
All Others	-	15' (Give or take 2 or 3')	

B. Length

1. Outside area (Washington, Grove, Centre, Stimpson) Paved 6950'

2. Inside area (All other streets)

Paved	655'
Gravel	10,740'
Paper	3,555'
Traffic ways (not streets legally)	685'
Total inside street length	15,635'

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Exhibit 11.

UTILITY MEASUREMENTS

		Width	Length
A.	Outside area		
	1. Water pipes	12"	6950'
	2. Storm sewers	30"	1510'
		27"	4940'
		24 x 28"	500'
		Total	6950'
	3. Sanitary sewers	18 x 20"	500'
		10"	6450'
		Total	6950'
B.	Inside Area		
	1. Water pipes	12"	2585'
		8"	5610'
		6"	565'
		Total	8760'
	2. Storm sewers	18"	250'
		12"	550'
		Total	800'
	3. Sanitary sewers	10"	250'

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Exhibit 12.

OWNERSHIP BY AREA

A.	Total Area (not including streets)	2,460,611 sq. ft.
	Total Acreage (not including streets)	56.5 Acres
B.	Total Area Grove-resident-owned	1,497,522 sq. ft.
	Total Area City-owned (not streets)	632,614 sq. ft.
	Total Area non-Grove-owned	270,403 sq. ft.
	Total Area Realty-owned	60,072 sq. ft.

Exhibit 13.

PARCEL OWNERSHIP (1 of 2)

BLOCK	TOTAL	GROVE RESIDENT OWNED	CITY OWNED	NON-GROVE RESIDENT OWNED	REALTY OWNED
B25	30	16	3	6	5
B24	12	6	2	4	0
B18	21	9	7	5	0
B19	30	7	19	4	0
B23	19	8	10	1	0
B22	12	8	4	0	0
B21	9	2	7	0	0
B20	19	12	6	1	0
B16	12	0	0	0	12
B17	9	4	5	0	0
B14	7	7	0	0	0
B15	40	21	11	8	0
B10	29	18	5	6	0
B11	24	6	11	7	0
B 7	13	1	7	5	0
B 8	23	2	18	3	0
B 9	18	4	13	1	0
B 6	17	7	9	1	0
B 5	24	6	13	5	0
B 4	44	17	25	2	0
B 3	62	31	28	3	0
B 2	13	6	4	3	0

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Exhibit 13. Cont.

PARCEL OWNERSHIP (2 of 2)

BLOCK	TOTAL	GROVE RESIDENT OWNED	CITY OWNED	NON-GROVE RESIDENT OWNED	REALTY OWNED
B12	43	36	7	0	0
B13	83	48	22	13	0
B 1	116	69	41	6	0
TOTAL	729	351	277	84	17

Exhibit 15/4

PARCEL OWNERSHIP

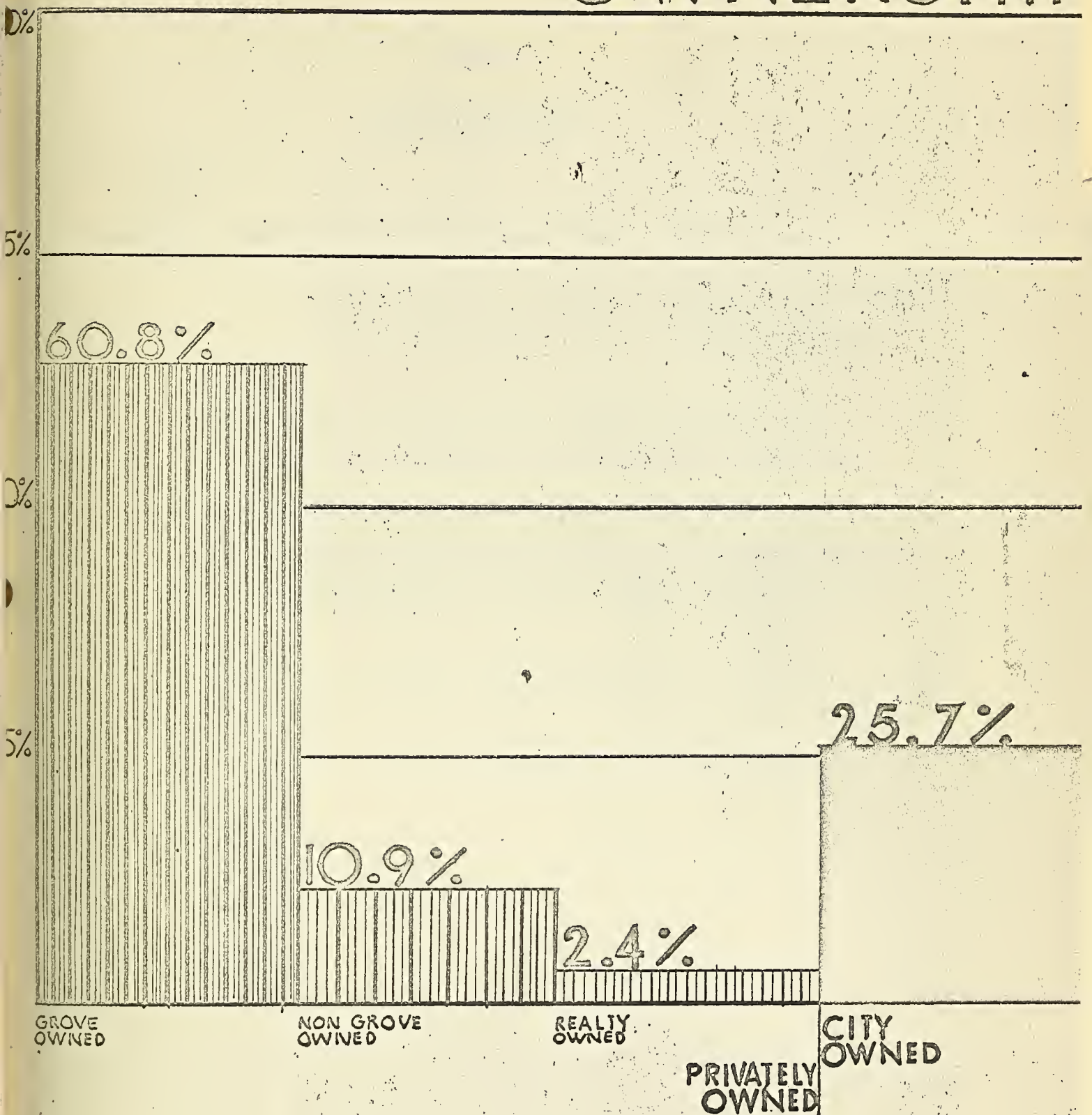

Exhibit 15

CONTIGUOUS OWNERSHIP

A unit of contiguous ownership is that land comprising one or more contiguous parcels within a block that is under single ownership.

A. There are 329 units of contiguous ownership; 196 Grove-owned, 65 city-owned, 65 non-Grove owned, and 3 Realty-owned.

B. The median ownership unit is about 4800 square feet.
The median Grove-owned unit is about 5100 square feet.
The median City-owned unit is about 3000 square feet.
The median non-Grove-owned unit is about 2600 square feet.
The median Realty-owned unit is about 13,500 square feet.

C. There are 190 units consisting of only 1 parcel, 68 consisting of 2 parcels, 24 of 3, 19 of 4, 7 of 5, 0 of 6, 2 of 7, 3 of 8, 6 of 9, and 9 consisting of 10 or more parcels.

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Exhibit 16.

DISTRIBUTION OF LAND VALUATIONS PER SQ. FOOT

Total land valuation - - $143,977.40

Percent of area	Value per square foot
.4%	$ .0114
8.4	.02
32.5	.03
15.5	.04
11.7	.05
8.4	.06
4.3	.07
5.4	.08
2.8	.09
6.2	.10
.2	.11
.1	.12
.2	.13
.2	.14
.5	.15
.1	.16
.4	.18
.6	.36
.5	.50
.6	1.00

Average valuation is about $.04 per square foot.

Exhibit 17.

GROVE AREA PROJECT

CENSUS DATA W-6-D

POPULATION BY RACE

Total Pop.		7459
White	7424	
Negro	21	
Other	14	

FOREIGN BORN STOCK

Total Foreign Born Stock		3371
Foreign Born	973	
Native or Mixed parentage	2398	
U.K.	273	
Eire	854	
Norway	44	
Sweden	115	
Germany	307	
Poland	90	
Check.	4	
Austria	30	
Hungary	4	
U. S. S. R.	60	
Italy	373	
Canada	629	
All Other	588	

YEARS OF SCHOOL COMPLETED

People of 25 years and over		4503
No Schooling	64	
Elementary:		
1 - 4	98	
5 - 7	332	
8	631	
High School:		
1 - 3	891	
4	1681	
College:		
1 - 3	452	
4	354	
Median	12.1	

CENSUS DATA CONTINUED

FAMILY INCOME	NO. OF FAMILIES
All Families	1933
Under $1,000	8
$1,000, 1,999	53
$2,000, 2,999	71
$3,000, 3,999	131
$4,000, 4,999	175
$5,000, 5,999	323
$6,000, 6,999	298
$7,000, 7,999	270
$8,000, 8,999	165
$9,000, 9,999	137
$10,000, 14,999	233
$15,000, 24,999	65
$25,000 +	4
Median Income Families	6,690
Median & unrelated individ.	6,197

AGE SEX POP. TOTAL

Age	Male	Female
Total	3615	3844
Under 5	429	393
5 - 9	353	337
10 - 14	302	285
15 - 19	237	275
20 - 24	135	213
25 - 29	227	211
30 - 34	259	251
35 - 39	263	269
40 - 44	270	241
45 - 49	228	283
50 - 54	238	245
55 - 59	196	245
60 - 64	171	204
65 - 69	141	155
70 - 74	81	100
75 - 79	53	70
80 - 84	23	41
85 +	9	26
Median Age	32.4	34.1

CENSUS DATA CONTINUED (3 of 3)

EMPLOYMENT

Total Employed	3110
Private Wage - Salary	2174
Government	749
Self-Employed	187

MEANS OF TRANSPORTATION

All Workers	3017
Private Auto-Car Pool	1605
Railroad	78
Subway-Elevated	586
Bus - Street Car	430
Walk	143
Other	33
Work At Home	24
Not Reported	118

PLACE OF WORK

Inside S.M.S.A.	2835
Boston City	2291
Remainder of Suffolk County	8
Cambridge	76
Middlesex - Remainder of Inner Part	122
Middlesex - Remainder of Outer Part	82
Essex - Inner	9
Essex - Outer	0
Norfolk-Inner	191
Norfolk-Outer	56
Plymouth County	0
Outside S. M. S. A.	89
Not Reported	93

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Exhibit 18.

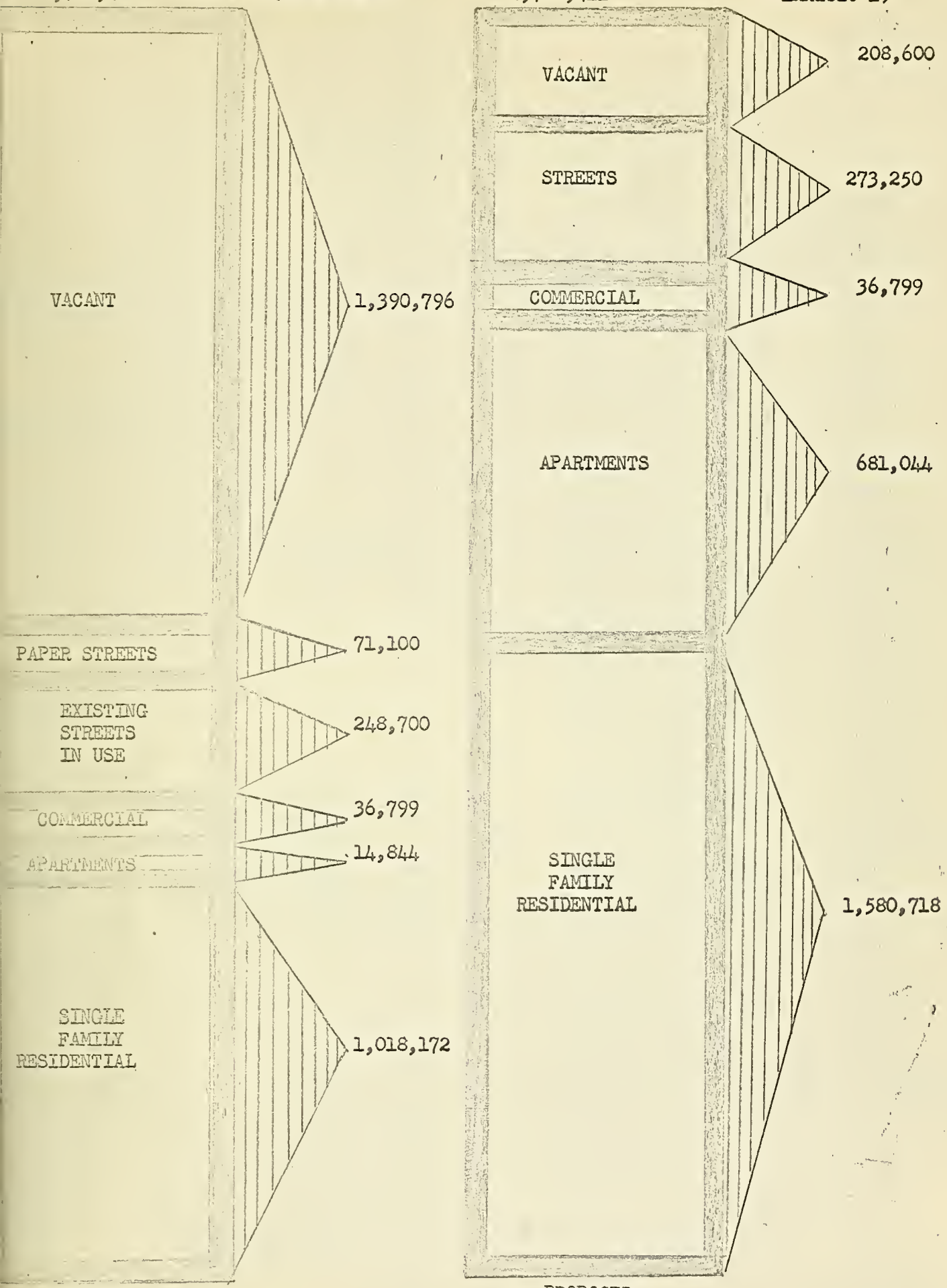
PROPOSED LAND USE IN SQUARE FEET

USE	AREA	TOTAL SQUARE FEET	TOTAL SQUARE FEET OF AREA NOW CITY-OWNED
Streets	Main Road	60,000	32,700
"	Ring-West	57,000	32,700
"	Ring-East	57,000	29,000
"	Center-West	25,000	15,100
"	Center-East	28,750	15,700
"	Cul-West	8,000	6,000
"	Cul-East	9,000	4,100
"	Exit-West	3,800	3,300
"	Exit-East	3,600	1,700
"	Grove-Cul	6,900	0
	New streets Total	259,050	140,300
	Bryant Road	14,200	14,200
	ALL Streets Total	273,250	154,500
Apartments			
"	A	302,900	102,700
"	B - 1	54,200	31,500
"	B - 2	79,500	30,600
"	C	162,000	66,700
"	D	44,100	37,800
"	E	23,~~000~~ 500	500

Exhibit 18. Cont.

USE	AREA	TOTAL SQUARE FEET	TOTAL SQ. FT. OF AREA NOW CITY-OWNED
Apartments (cont'd.)	New Apts. Total	~~408,500~~ 666,200	269,800
	Existing Apts.	14,844	0
	Total Apts.	681,044	269,800
Sing. Fam. Lots	Sing. Family Lots Total	1,580,718	357,514
Parks			
"	Park Area Between A, B, C, D	79,200	64,000
"	2 Park plots between A & B	39,600	37,300
"	All park area between C, D & E	89,800	59,300
	Total Parks	208,600	160,600
Commercial	Commercial Total	36,799	0
	Total Commercial	36,799	0
	Total Streets	273,250	154,500
	Total Apartments	681,044	269,800
	Total Single Fam. Dwellings	1,580,718	357,514
	Total Parks	208,600	160,600
	Total Area	2,780,411	942,414

2,780,411 - TOTAL SQUARE FEET - 2,780,411 Exhibit 19

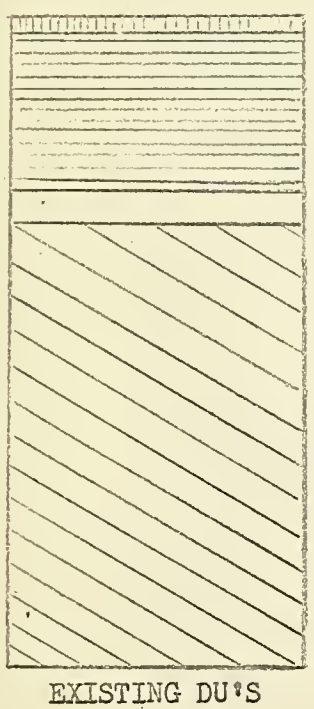


LAND USE

Exhibit 20

519

DWELLING UNITS EXISTING AND FUTURE



'RA DU'S
MINATED
M MULTI-
ILY
UCTURES

'S TO BE
ED OR
OLISHED

'S TO
MAIN

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Exhibit 21.

BUILDINGS TO BE DEMOLISHED OR MOVED

Block No.	Condition	Address	Owner	Bldg. Val.	Reas. for move	Move in	Move out of lot	D
B 12	B	20 Linden	James F. Donnely	2400	Road		+	
B 13	C	56 Cottage	Warwick B. Freeman	1800	Road	+		
B 12	B	57 Linden	John F. Hogan	2400	Road		+	
B 12	B	71 Linden	Eugene D. Dench	2400	Road	+		
B 12	B	18 Chestnut	Alice M. Turcotte	1000	Road	+		
B 3	B	41 Linden	Andrew J. Bernard	2200	Road	+		
B 4	A	61 Walnut	Theodore F. Denman	1700	Road		+	
B 4	C	71 Walnut	William L. Donohue	2100	Road		+	
B 9	C	19 Cedar	Thomas G. Brennan	1400	Road		+	
B 10	A	151 Cottage	Abbott R. Greenberg	1400	Road	across street		
B 10	B	58 Oak	Joan Taube	2300	Road	+		
B 18	C	35 Overlook	Frederick W. McQueen	1400	Road	+		
B 18	C	37 Overlook	Leo Lesha	1400	Road		+	
B 18	C	59 Overlook	Elton M. Rawley	1300	Road	+		
B 24	C	85 Overlook	Nicholas Papalici	1400	Road	across street		
B 19	A	16 Camp	George Castonguay Jr	2100	Road park			
B 1	B	75 Stimpson	Richard F. Hutchins	2300	Road	+		
B 22	A	49 Stimpson	Emily Savage	1400	Road	+		
B 13	B	147 Grove	Malcom R. Lawson	1800	Apts		+	
B 13	C	131 Grove	George H. Schaffer	1300	Apts		+	
B 13	A	137 Grove	Vincenzo M. Perilli	4000	Apts		+	

Exhibit 21. Cont.

BUILDINGS TO BE DEMOLISHED OR MOVED

Block No.	Condition	Address	Owner	Bldg. Val.	Reas. for move	Move in	Move out of lot	D
B 13	C	147 Grove	Michael Rindini	6300	Apts		+	
B 11	C	145 Cottage	Helen F. Walsh	1900	Apts		+	
B 11	A	64 Chestnut	Herbert L. Chenell	1400	Apts		+	
B 3	C	85 Linden	John J. Connors	2800	Apts		+	
B 6	C	5 Cedar	John A. Brennan	1400	Park		+	
B 9	B	3 Cedar	Theodore Scolsky	2300	Apts		+	
B 10	C	36 Oak	W. L. Hennessey	1400	Lot Size		+	
B 10	C	35 Birch	Ethel Fitzgerald	700	Lot Size		+	
B 15	C	227 Cottage	James Cambell	1400	Lot next Size lot			
B 25	B	58 Overlook	John Rimini	900	Lot Size	+		
B 25	D	68 Overlook	Marlon A. Gavin	700	Condition			+
B 12	D	30 Linden	Fred L. Capen	1100	"			+
B 20	C	2 Stimpson	Daniel F. Kelley	1800	Lot	+		
B 5	C	27 Chestnut	Harriet McCarthy	1800	Road	+		
B 1	C	141 Dana	Benjamin Pulver	1000	Apt		+	
B 1	A	115 Stimpson	James L. Cullins	4100	Park		+	

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Exhibit 22.

LENGTH AND WIDTH OF PROPOSED STREETS

Proposed streets	Length	Width
Main road	2000 Feet	30 Feet
Ring road West	1900 "	30 "
Ring road East	1900 "	30 "
Center road of Ring West	1000 "	25 "
Center road of Ring East	1150 "	25 "
Cul - de - sac East	220 "	25 "
Cul - de - sac West	210 "	25 "
Exit West	120 "	25 "
Exit East	110 "	25 "
Grove Cul - de - sac	230 "(in future)	25 "
Total	8940 Feet	
Total Length - 30 Feet Wide	5800 "	
Total " - 25 " "	3140 "	

Exhibit 23.

GROVE AREA PROJECT

TOTAL COST - GROVE AREA PROJECT

A. Road construction cost

1.	House moving and demolition	$ 114,000
2.	Excavation	350,486
3.	Catch basins, manholes, etc.	30,132
4.	Sewers, water mains	188,634
5.	Paving	25,156
6.	Sidewalks	1,215
7.	Curbing	77,400
8.	Hydrants, signs	7,385
9.	Grading, planting	17,298
	Sub-Total Cost	$ 811,706
	Add 10% for increased cost	81,170
	Sub-Total Cost	892,876
	Add 10% for unexpected cost	89,287
	Road construction Grand Total Cost	982,163

B. Other costs

1.	Other house moving and demolition	108,000
2.	Land purchase	5,996
	Sub-Total Cost	$ 1,096,159
3.	10% Planning, surveying and Administrative Cost	109,615
	Total Cost of Project to Redevelopment Authority	$ 1,205,774

Note:

This cost estimate is based on average prices and construction estimates as found in similar cost estimate reports for State Highway and Road Construction according to the Mass. Dept. of Public Works, the New England Road Builders Weekly and Pulver's Construction Estimates and Costs.

Exhibit 23. Cont.

ROAD CONSTRUCTION COST ESTIMATE

Cost of road and utility construction exclusive of land-taking and surveying:

A. House moving and demolition

Average cost: $6000 per house
Total houses: 19
Total Cost---------- $114,000

B. Excavation

1. Tree removal

Number 280 that cannot be bulldozed
Unit cost: $50 average
Total Cost---------- $14,000

2. Clearing and grubbing

Number acres: 6
Unit price per acre: $425
Total Cost---------- $2,550

3. Type B (Hard) Rock excavation

Cubic yards: 6,666
Unit price per C.Y.: $25
Total Cost---------- $166,600

4. Earth excavation

Cubic yards: 66,350
Unit price per C.Y. $1.50
Total Cost---------- $99,525

5. Trench excavation

Cubic yards: 8,940
Unit price per C.Y.: $5
Total Cost---------- $44,700

6. Gravel borrow

Cubic yards: 4,190
Unit price per C.Y.: $2.30
Total Cost---------- $13,637

Exhibit 23. Cont.

7. Sand borrow (cover)

Cubic yards: 37
Unit price per C.Y.: $5
Total Cost----------$185

8. Grading, Rolling, Finishing

Square yards: 22,117
Average cost per S.Y.: $.42
Total Cost----------$9,280

Total Cost for Excavation----------$350,486

C. Catch basins, manholes, etc.

1. Catch basins

Total number: 90
Unit cost: $170
Total Cost----------$15,300

2. Manholes

Total number: 42
Unit cost: $165
Total Cost----------$6,930

3. Drop inlets

Total number: 36
Unit cost: $160
Total Cost----------$5,760

4. 12" R.C. pipe for drainage

Total length: 630'
Unit cost: $3.40
Total Cost----------$2,142

Total Cost for catch basins, manholes, etc.—$30,132

D. Storm sewers, sanitary sewers, water mains

1. Storm sewers

18" concrete pipe; total length: 8,940'
Unit cost: $4.60
Total Cost----------$41,124

2. Sanitary sewers

10" pipe; total length: 8,940'
Unit cost: $7.50
Total Cost----------$67,050

Exhibit 23. Cont.

3. Water mains

12" pipe; total length: 8.940'
Unit cost: $9.00
Total Cost----------$80,460

4. Couplings, fittings valves, etc., will cancel out savings on use of some existing water mains, so cost of couplings, etc., is included in the $80,460 of item D-3.

Total Cost of sewers, water mains-------$188,634

E. Paving

1. Bituminous concrete

Total sq. yds. of surface: 28,783
C. yds. of concrete per s.y.: .139
C. yds. of concrete: 4000
1/3 of a ton of concrete per c.y.
Total tons: 1333
Unit cost: $6.20 per ton
Total Cost----------$8,264

2. Bitumen for base course

Total sq. yds. of surface: 28,783
Bitumen: 2" thick
C. yds. of bitumen: 4797
Gallons per C.Y.: 8.4
Total gallons: 40,320
Unit cost: $.12 per gallon
Total Cost----------$3,360

3. Crushed stone for base course

Total sq. yds. of surface: 28,783
Crushed stone: 4" thick
C. yds. of crushed stone: 3,198
Weight per C.Y.: 1-25 tons
Total tons: 3,997
Unit cost: $3 per ton
Total Cost----------$9,991

4. HES. Cem. conc. base course

Cubic yds.: 22
Unit cost: $25
Total Cost----------$550

5. Bitumen for roadway dust control

Gallons: 2,015
Unit cost: $.16
Total Cost----------$322

Exhibit 23. Cont.

6. Calc. chl. for roadway dust control

Lbs.: 10,135
Unit cost: $ .05
Total Cost----------$507

7. Bitumen for tack coat

Gallons: 1,220
Unit cost: $ .38
Total Cost----------$464

8. Longitudinal joints prepared

L.F.: 2,195
Unit cost: $ .50
Total Cost---------- $1,098

9. Transverse joints prepared

L.F.: 1,200
Unit cost: $ .50
Total Cost----------$600

Total Cost for Paving----------$25,156

F. Sidewalks

Cubic yds.: 332
Unit cost: $3.66 per C.Y.
Total Cost----------$1,215

G. Curbing

1. Straight granite curbing

L.F.: 18,000
Unit cost: $3.50 per L.F.
Total Cost----------$63,000

2. Curved granite curbing

L.F.: 3,200
Unit cost: $4.50
Total Cost----------$14,400

Total Curbing Cost----------$77,400

H. Hydrants, street signs

1. Hydrants removed and reset

Total number: 22
Unit cost: $140
Total Cost:----------$3,080

Exhibit 23. Cont.

2. Hydrants furnished and installed

Total number: 14
Unit cost: $250
Total Cost----------$3,500

3. Traffic signs

Total number: 8
Unit cost: $55.65
Total Cost----------$445

4. Street signs

Total number: 18
Unit cost: $20
Total Cost----------$360

Total Cost Hydrants, Signs----------$7,385

I. Grading, Planting

1. Rough grading

Sq. Yds.: 5,960
Unit cost: $ .04 per s.y.
Total Cost----------$238

2. Loam rehandled and spread

Sq. Yds.: 5,960
Unit cost: $1.00 per sq. yd.
Total Cost---------- $5,960

3. Seeding

Sq. Yds.: 5,960
Unit cost: $1.25
Total Cost----------$7,350

4. Shrubs

Total number: 250
Average unit cost: $5
Total Cost---------- $1,250

5. Tree planting

Total number: 250
Average unit cost: $10
Total Cost---------- $2,500

Sub-Total Cost Grading, Planting------ - $17,298

Exhibit 24.

COST ESTIMATE OF BRA LAND PURCHASE AND SALE

A.	Value of city-owned land purchased by BRA	$ 56,458
B.	Value of privately-owned land purchased by BRA	67,578
C.	Total value of land purchased by BRA (A+B)	124,036
D.	Value of land sold by BRA to city for streets	10,688
E.	Value of land sold by BRA to private ownership	107,352
F.	Total value of land sold by BRA (D+E)	118,040
G.	Net cost to BRA in purchase and sale of land (C-F)	5,996

H. (A-D) = $45,770 net value to city of sale of city-owned land.

Exhibit 25.

ANALYSIS OF REVENUE AND TAXES NEEDED TO UNDERWRITE COST OF PROJECT

Entire cost of project		2/3 Federal		1/3 City
$1,205,774	-	$803,850	=	$401,925

Gross cost to city		Net value of sale of city land		Net cost to city
$403,925	-	$45,770	=	$356,155

Net cost to city		Years to pay		Cost per year at 5% per year (Total net cost plus 5% interest)
$356,155	÷	21	=	$16,960

Cost per year to city		Amount payed by taxes on business per year		Amount payed by taxes on D.U.'s per year
$16,960	-	$1,420	=	$15,540

Amount payed by taxes on D.U.'s per year		Number of D.U.'s		Average tax per DU per year to cover project cost
$15,540	÷	519	=	$30

Average tax per D.U. per year to cover project cost

$30

APPENDIX II

MAPS

1. General Area Map*
2. Shopping Center Map
3. Land Use Map
4. Zoning Map
5. Building Age Map
6. Building Condition Map
7. Street Map
8. Utility Map
9. Topography Map
10. Ownership Map
11. Contiguous Ownership Map
12. Proposed Plan Map

* Note

Maps are not included in this report. They are separate and used for presentation purposes only.